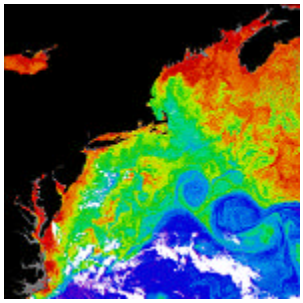
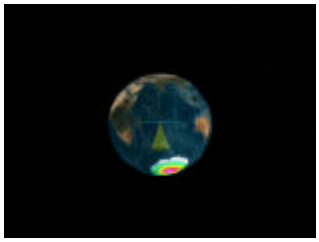
National Environmental Satellite, Data, and Information Service
Product Development, Readiness, and Application

Transitions Underway From Research and Development Space Instruments to Operational NOAA Satellites



Imagery – Atmosphere and Surface - Evolution from:

- NASA MODIS, NASA SeaWIFs, to NPOESS VIIRS
- Navy WindSat/Coriolis to NPOESS CMIS



Ozone and Trace Gases - Evolution from:

- NASA TOMS to NPOESS OMPS
- NASA AIRS to NPOESS CrIS

The National Requirement: The Nation has a need for enhanced use of satellite data to improve weather forecasts, and expand environmental assessment capabilities. Additionally, emerging new portfolios of satellite products (fires, fire risk, desertification, ENSO-related drought, insect-borne diseases) are poised to make important contributions to the economic vitality of the Nation and the World. The demand for these types of products is growing and a capability to evaluate external products and develop products from NOAA operational satellites is critically needed.

NOAA's Response: The Product Development, Readiness, and Application program responds to this requirement by financing efforts needed to ensure that satellite remote sensing data and information products are of the highest quality possible and to enhance their usefulness so that NOAA missions of environmental assessment, prediction, and stewardship are met today, and in the future. To meet these mission critical requirements, this program supports activities that center on developing new satellite instruments and products, and translating these new capabilities to operations in order to improve weather and climate monitoring and prediction.

Program funding also supports NOAA ocean remote sensing programs including sea surface temperature algorithms and analyses, ocean color, satellite altimetry, oceanic rainfall measurements, coastal monitoring tools for the CoastWatch program, and for Coral Bleaching studies. The Global Winds Demonstration Project also receives funding from this program.

Financing: NOAA requests a total $25.8 million for the Product Development, Readiness, and Application program, including a net program increase of $2.5 million. NOAA requests an increase of $2.6 million for the Joint Center for Satellite Data Assimilation (JCSDA). The National Weather Service, the NOAA Office of Atmospheric Research, and NASA also provide funding as partners in this coordinated national effort to more fully realize the potential of the vast quantities of new satellite data that are becoming available.

To speed the development of the new satellite data assimilation science, NOAA and NASA recently established the JCSDA to bring government and academic scientists together to facilitate the use of data from a large number of new satellites and instruments that NOAA and NASA plan to launch in the future. Currently, about 85 percent of the data used to initialize numerical weather prediction (NWP) models comes from satellites. In the next few years, there will be an explosive growth in the number of satellite instruments capable of further improving NWP accuracy.